2. (Amended) The thermostable enzyme according to claim 1 obtainable from *Archeoglobus fulgidus*.

3. (Amended) The thermostable enzyme according to claim 1 which is able to cooperate as proofreading enzyme with a second enzyme exhibiting polymerase activity.

4. (Amended) The thermostable enzyme according to claim 1 which exhibits reduced DNA polymerase activity.

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5. (Amended) A composition comprising a first thermostable enzyme exhibiting 3'-exonuclease-activity but essentially no DNA polymerase activity and a second enzyme exhibiting DNA polymerase activity, said composition enhancing the fidelity of an amplification process in comparison to the use of the single second enzyme.

6. (Amended) The composition according to claim 5 wherein the second enzyme is lacking proofreading activity.

7. (Amended) The composition according to claim 6 wherein the second enzyme is Taq polymerase.

8. (Amended) A method of preparing or amplifying DNA comprising incubating DNA with the composition according to claim 6.

9. (Amended) The method of claim 8 wherein prematurely terminated chains are trimmed by degradation from 3′ to 5′.

10. (Amended) The method according to claim 8 wherein mismatched ends of either a primer or the growing strand are removed.

11. (Amended) The method according to claim 8 wherein dUTP instead of TTP is present in the reaction mixture.

12. (Amended) The method according to claim 11 wherein UNG is used for degradation of contaminating nucleic acids.

13. (Amended) The method according to claim 8 wherein the mixture of a
- first thermostable enzyme exhibiting 3'-exonuclease-activity but essentially no DNA polymerase activity and

- a second enzyme exhibiting DNA polymerase activity

produces PCR products with lower error rates compared to PCR products produced by the second enzyme exhibiting DNA polymerase activity in absence of the first thermostable enzyme exhibiting 3'-exonuclease-activity but essentially no DNA polymerase activity.

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14. The method of claim 13 in which the mixture of first thermostable enzyme exhibiting 3'-exonuclease-activity but essentially no DNA polymerase activity and a second enzyme exhibiting DNA polymerase activity produces PCR products of greater length compared to PCR products produced by the second enzyme exhibiting DNA polymerase activity in absence of the first thermostable enzyme exhibiting 3'-exonuclease-activity but essentially no DNA polymerase activity

15. (Amended) The method according to claim 8 wherein the first thermostable enzyme exhibiting 3'-exonuclease-activity but essentially no DNA polymerase activity is related to the Exonuclease III derived from E.coli, but is thermostable.

16. (Amended) The method according to claim 8 wherein PCR products with blunt ends are obtained.

17. (Amended) A method for amplifying DNA comprising incubating DNA with a thermostable enzyme exhibiting 3'-exonuclease-activity which enzyme is not or only to a negligible extent active on linear single stranded DNA.